CHAPTER 1

GENERAL

1-1. Purpose and scope. This manual presents mobilization procedures for the design of sanitary and industrial wastewater pumping facilities for mobilization construction of Army installations.

1-2. Special wastes. Pump systems receiving hazardous and explosive wastes, corrosive acids or alkalis, or other special industrial wastes, will generally require the selection of highly resistant materials for pumps, valves, and piping. Design of these systems will be in accordance with special criteria developed for the particular situation. Selection of materials for pumps, piping, valves, and controls, etc., will be based on manufacturer's recommendations, product specifications and other appropriate design guidance.

1-3. Pumping station alternatives. Pumping stations and pneumatic ejectors will normally be required to remove wastes from areas which cannot be served hydraulically by gravity sewers. In certain situations, however, a gravity sewer system can be utilized but only at the expense of deep trench excavation, jacking, boring, tunnelling, or construction of long sewer runs to avoid high terrain. Depths of gravity sewers greater than 15 feet are usually uneconomical, however, a gravity sewer system will generally be justified until its cost exceeds the cost of a pumped system by 10 percent.

1-4. Grinder pumps. There may be remote areas so limited by high ground water, subsurface rock, unstable soil, or steep topography, that neither gravity sewers nor centralized pumping stations will be feasible. In these cases, the use of grinder pumps may be investigated. Grinder pump consideration should be limited to the remote locations and where small force mains are required or where the use of manually cleaned bar screens could present a serious maintenance problem.